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IN THE ABSTRACT

p. 10, ln. 2: Change “comprises” to --includes--.

ln. 7: Delete “an output signal comprising”.

REMARKS

General

Inventor Richard Scheps is referred to herein as “Applicant”.

U.S. Patent 5,457,639 issued on October 10, 1995 to Ulich, et al is referred to herein as “Ulich”.

U.S. Patent 5,822,047 issued on October 13, 1998 to Contarino, et al is referred to herein as “Contarino”.

U.S. Patent 5,082,362 issued on January 21, 1992 to Schneiter is referred to herein as “Schneiter”.

U.S. Patent 5,117,126 issued on May 26, 1992 to Geiger is referred to herein as “Geiger”.

Status of Claims

Claims 1-6 are pending in the subject application.

Claims 1, 3, and 5 were rejected under 35 USC §102(b) as being anticipated by Ulich.

Claim 2 was rejected under 35 USC §103(a) as being unpatentable over Ulich in view of Contarino.

Claim 4 was rejected under 35 USC §103(a) as being unpatentable over Ulich in view of Schneiter.

Claim 6 was rejected under 35 USC §103(a) as being unpatentable over Ulich in view of Geiger.

Synopsis of amendment

The abstract has been amended to overcome the objection.

Response to the rejection of claims 1, 3, and 5 under 35 USC §102

Claims 1, 3, and 5 were rejected under 35 USC §102(b) as being anticipated by Ulich. Applicant traverses the rejection for the following reasons. A proper rejection based on anticipation of claims is explained at MPEP §2131, which states:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)

Ulich does not disclose each and every element as set forth in the claims

The rejection errs in the comparison of the claimed combination to Ulich. Ulich does not disclose the claimed pulsed laser for generating a line scan of light beam pulses as alleged in the rejection. As Ulich explains at cl. 5, 28-30 and cl. 6, ln. 54-56, scanner 20 does not generate a line scan. Ulich’s scanner 20 is part of the receiver assembly, therefore scanner 20 receives rather than generates the transmitted light from laser transmitter 16. No line scanning feature is disclosed in Ulich for generating a line scan from laser transmitter 16. Furthermore, Ulich defines a scan at cl. 7, ln. 23-25 and shown in Figs. 2 and 3 as a single area surrounding a target. In contrast, the claimed line scan as defined in the specification at ln. 21-23 and shown

in Fig. 1 is a series of lines that collectively define an area surrounding a target.

The rejection further errs in alleging that Ulich generates the claimed output signal representative of the claimed display signal from the output signal of photomultiplier tube 104. As Ulich explains at cl. 6, ln. 47-53, photomultiplier tube 104 outputs a signal for determining a varying range, not for generating a display of a target from scattered light as claimed by Applicant. On the contrary, Ulich's display signal is generated by camera 18 as described at cl. 5, ln. 30-43.

The rejection further errs in alleging that Ulich discloses the claimed selectable pulse width and pulse rate of the claimed light beam pulses. At cl. 5, ln. 9-15 Ulich discloses a laser transmitter 16 with "short pulses for range resolution and daylight noise rejection", not the claimed selectable pulse width and pulse rate of the transmitted light beam. The gating cited by the rejection that Ulich describes at cl. 5, ln. 28-41 controls camera 18 for receiving scattered light, not for generating light beam pulses as claimed by Applicant.

Because Ulich does not disclose generating the claimed line scan, the claimed photomultiplier for generating an output signal to display light scattered by a target, and the selectable pulse width and pulse rate of the claimed light beam pulses, Ulich does not anticipate claims 1, 3, and 5 under 35 USC §102(b).

Regarding claim 5, the rejection further errs in alleging that Ulich discloses the claimed controller gating of the output signal from the photomultiplier tube. As Ulich explains at cl. 6, ln. 42-53 cited by the rejection, controller 44 triggers the gating circuits of camera 18. No gating of the output of photomultiplier tube 104 by controller 44 is disclosed by Ulich as alleged by the rejection.

Response to the rejection of claims 2, 4, and 6 under 35 USC §103

Claims 2, 4, and 6 were rejected under 35 USC §103. Applicant traverses the

rejection for the following reasons. The rejection errs in that the PTO failed to make a *prima facie* case of obviousness according to PTO rules. Specifically, MPEP §706.02 states:

“After indicating that the rejection is under 35 USC §103, the examiner should set forth in the Office Action (1) the relevant teachings of the prior art relied upon, preferably with the reference to the relevant column or page number(s) and line number(s) where appropriate, (2) the difference or differences in the claim over the applied reference(s), (3) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and (4) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.”

The rejection failed to propose a modification of the applied reference necessary to arrive at the claimed subject matter and failed to explain why such proposed modification would be obvious. If the PTO continues the rejection, Applicant is entitled under due process to at least one non-final action to defend the rejected claims against a properly substantiated argument compliant with MPEP §706.02 to restore due process in the examination of claims 1-6.

Regarding claim 2, the rejection further errs in alleging that Ulich discloses substantially the same limitations as claim 1. As explained above, Ulich does not disclose generating the claimed line scan, the claimed photomultiplier for generating an output signal to display light scattered by a target, or the selectable pulse width and pulse rate of the claimed light beam pulses. The rejection further errs in alleging that Contarino “discloses the same imaging lidar wherein the laser has a wavelength corresponding to a blue-green color.” Contarino does not disclose generating the claimed line scan, the claimed photomultiplier for generating an output signal to display light scattered by a target, or the selectable pulse width and pulse rate of the claimed light beam pulses. The rejection further errs in alleging that Ulich fails to disclose a laser wavelength corresponding to a blue-green color. At cl. 5, ln. 12-13

Ulich teaches a wavelength of 500 to 550 nm, which includes blue-green. Because Ulich teaches the limitation of blue-green, Contarino adds no substance to the rejection. However, Ulich does not disclose the limitations of claim 1 as explained above, therefore the rejection fails to arrive at the claimed subject matter.

Regarding claim 4, the rejection further errs in alleging that Ulich discloses substantially the same limitations as claim 1 as explained above. The rejection further errs in alleging that Schneiter “discloses the same imaging system wherein the pulse rate is about 700 KHz”. Schneiter does not disclose generating the claimed line scan, the claimed photomultiplier for generating an output signal to display light scattered by a target, or the selectable pulse width and pulse rate of the claimed light beam pulses as alleged by the rejection. The rejection cites cl. 16, ln. 31-33, where Schneiter teaches a section of a motor controller board that reads incremental encoder pulses on a rotating ribbon scan disk at a rate of up to 500 KHz. The rejection establishes no connection between a motor controller board that can read a scan disk rotating at a rate of 500 KHz and the claimed pulsed laser for generating a line scan of light beam pulses at 700 KHz. Even if the rejection could somehow establish such a connection, the rejection would still fail to arrive at the claimed subject matter because Ulich does not disclose the limitations of claim 1.

Regarding claim 6, the rejection further errs in alleging that Ulich discloses substantially the same limitations as claim 1 as explained above. The rejection further errs in alleging that Geiger discloses the claimed periodically poled crystal gain element. At cl. 5, ln. 45-56 and cl. 6, ln. 7-15, Geiger describes controlling dominance of a first crystal by matching the first crystal length with a second crystal length, not the claimed periodically poled crystal gain element. As is well known in the art, a periodically poled crystal is a single crystal, typically lithium niobate, implanted with ions to maintain relative phase between light wave harmonics, not multiple crystals

matched in length as alleged by the rejection.

Because Ulich does not teach or suggest generating the claimed line scan, the claimed photomultiplier for generating an output signal to display light scattered by a target, or the selectable pulse width and pulse rate of the claimed light beam pulses, and because Schneiter does not teach or suggest the claimed pulsed laser for generating a line scan of light beam pulses at 700 KHz, and because Geiger does not teach or suggest the claimed periodically poled crystal gain element, and because no motivation has been shown in the references that would lead one to modify them to arrive at the claimed invention, claims 2, 4, and 6 are not obvious under 35 USC §103(a).

Conclusion

Because the cited references do not teach or suggest all the claimed limitations and there is no motivation shown in the references for modifying them to arrive at the claimed invention, Applicant requests that rejected claims 1-6 be favorably reconsidered and examined.

No additional fee is required for this amendment.



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